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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. This action is in response to the amendment filed on 04/08/2008.
2. Claims 4 and 13-43 have been canceled.
3. Claims 44-45 have been added.
4. Claims 1-3, 5-12 and 44-45 are pending for consideration.

Response to Arguments

5. The previous Final Action mailed 07/08/2008 has been withdrawn.
6. Applicant's arguments filed on 04/08/2008 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Medina does not explicitly disclose in detail dividing the metadata based upon a predetermined semantic unit. However, Krishnamurthy discloses dividing the metadata based upon a predetermined semantic unit (Krishnamurthy: column 4, lines 19-30 and lines 46-60 and column 5, lines 61-67: the segment metadata table entry corresponding to the offset). Therefore, the combination of Medina and Krishnamurthy is proper.

In response to applicant's argument that Medina does not disclose "generating metadata-related information using the selected metadata fragment data". Examiner respectfully disagrees. Medina does disclose "generating metadata-related information using the selected fragment data" (Medina: column 3 lines 44-47, column 30 lines 22-24, column 31 lines 44-49, column 32 lines 63-64, column 27 lines 27-38, column 30 lines 31-45 and column 46 lines 1-19: verify the digital signatures and part integrity for the metadata and offer SC(s) parts included within the Order SC(s)).

Examiner notes, Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 5-12 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medina et al. (US 6959288) (hereinafter Medina in view of Krishnamurthy (US 6823436) (hereinafter Krishnamurthy).

Regarding claim 1, Medina discloses generating a plurality of metadata fragment data by partitioning metadata to be transmitted (Medina: column 31 lines 44-49: metadata comprises parts); selecting a predetermined metadata fragment data from among the plurality of metadata fragment data (Medina: column 16 lines 55-64: metadata (i.e., secure container(s))); generating metadata-related information using the selected metadata fragment data (Medina: column 3 lines 44-47, column 30 lines 22-24, column 31 lines 44-49, column 32 lines 63-64, column 27 lines 27-38, column 30 lines 31-45 and column 46 lines 1-19: verify the digital signatures and part integrity for the metadata and offer SC(s) parts included within the Order SC(s)); and transmitting the selected metadata fragment data and the metadata-related information with data format information indicating a type of the selected metadata fragment data (Medina: column 16 lines 55-64).

Medina does not explicitly disclose in detail dividing the metadata based upon a predetermined semantic unit. However, Krishnamurthy discloses dividing the metadata based upon a predetermined semantic unit (Krishnamurthy: see Abstract section: dividing metadata segments into subsegments). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to incorporate the method of dividing the metadata based on predetermined semantic unit of Krishnamurthy into the

system of Medina to better utilization of memory resources and of segment metadata nodes in data snapshots in such systems (Krishnamurthy: column 1 lines 8-10).

Regarding claim 2, Medina as modified discloses wherein the selected metadata fragment data, the metadata-related information, and the data format information of the selected metadata fragment data are transmitted in a metadata container (Medina: column 10 lines 4-10).

Regarding claim 5, Medina as modified discloses wherein a metadata authentication level flag specifying a metadata authentication level is further contained in the metadata container (Medina: column 41 lines 24-35 and column 50 lines 32-39).

Regarding claim 6, Medina as modified discloses wherein the metadata-related information is metadata digest information obtained by substituting the selected metadata fragment data into a unidirectional function (Medina: column 16 lines 55-64).

Regarding claim 7, Medina as modified discloses wherein the unidirectional function is a hash function (Medina: column 16 lines 55-64).

Regarding claim 8, Medina as modified discloses generating metadata authentication signature information using the metadata-related information and a first encryption key; and inserting the metadata authentication signature information in the metadata container containing the selected metadata fragment data (Medina: column 16 lines 55-64).

Regarding claim 9, Medina as modified discloses wherein the metadata authentication signature information is obtained by substituting the metadata-related

information and the first encryption key into a unidirectional function (Medina: column 16 lines 55-64).

Regarding claim 10, Medina as modified discloses encrypting the first encryption key using a second encryption key; and inserting the encrypted first encryption key into the metadata container containing the selected metadata fragment data (Medina: column 12 lines 39-42).

Regarding claim 11, Medina as modified discloses wherein the plurality of metadata fragment data and corresponding metadata-related information are inserted into the metadata container, and each metadata fragment data and the corresponding metadata-related information are connected to each other by pointer information (Medina: column 41 lines 13-19 and lines 55-63).

Regarding claim 12, Medina as modified discloses wherein the plurality of metadata fragment data and corresponding metadata-related information and metadata authentication signature information are inserted into the metadata container, and each metadata fragment data and the corresponding metadata-related information and metadata authentication signature information are connected to one another by pointer information (Medina: column 41 lines 13-19 and lines 55-63).

Regarding claim 44, Medina discloses generating a plurality of metadata fragment data by partitioning metadata to be transmitted (Medina: column 31 lines 44-49: metadata comprises parts); selecting a predetermined metadata fragment data from among the plurality of metadata fragment data (Medina: column 16 lines 55-64: metadata (i.e., secure container(s))); generating metadata digest information by

substituting the selected metadata fragment data into a unidirectional function (Medina: column 3 lines 44-47, column 16 lines 55-64, column 27 lines 27-38, column 30 lines 22-24, column 31 lines 44-49, column 32 lines 63-64, column 27 lines 27-38, column 30 lines 31-45 and column 46 lines 1-19: verify the digital signatures and part integrity for the metadata and offer SC(s) parts included within the Order SC(s)); and transmitting the selected metadata fragment data and the metadata digest information with data format information indicating a type of the selected metadata fragment data (Medina: column 16 lines 55-64, column 27 line 58 through column 28 line 5 and column 29 lines 28-36).

Medina does not explicitly disclose in detail dividing the metadata based upon a predetermined semantic unit. However, Krishnamurthy discloses dividing the metadata based upon a predetermined semantic unit (Krishnamurthy: see Abstract section: dividing metadata segments into subsegments). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to incorporate the method of dividing the metadata based on predetermined semantic unit of Krishnamurthy into the system of Medina to better utilization of memory resources and of segment metadata nodes in data snapshots in such systems (Krishnamurthy: column 1 lines 8-10).

Regarding claim 45, Medina discloses generating a plurality of metadata fragment data by partitioning metadata to be transmitted (Medina: column 31 lines 44-49: metadata comprises parts); selecting a predetermined metadata fragment data from among the plurality of metadata fragment data (Medina: column 16 lines 55-64: metadata (i.e., secure container(s))); generating metadata container-level authentication

message digest information by substituting the selected metadata fragment data into a unidirectional function (Medina: column 3 lines 44-47, column 16 lines 55-64, column 27 lines 27-38, column 30 lines 22-24, column 31 lines 44-49, column 32 lines 63-64, column 27 lines 27-38, column 30 lines 31-45 and column 46 lines 1-19: verify the digital signatures and part integrity for the metadata and offer SC(s) parts included within the Order SC(s)); and transmitting a metadata container-level authentication container including the selected metadata fragment data and the metadata container-level authentication message digest information with data format information indicating a type of the selected metadata fragment data (Medina: column 16 lines 55-64, column 27 line 58 through column 28 line 5 and column 29 lines 28-36).

Medina does not explicitly disclose in detail dividing the metadata based upon a predetermined semantic unit. However, Krishnamurthy discloses dividing the metadata based upon a predetermined semantic unit (Krishnamurthy: see Abstract section: dividing metadata segments into subsegments). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to incorporate the method of dividing the metadata based on predetermined semantic unit of Krishnamurthy into the system of Medina to better utilization of memory resources and of segment metadata nodes in data snapshots in such systems (Krishnamurthy: column 1 lines 8-10).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Medina in view of Krishnamurthy, and further in view of Davis et al. (US 7209571) (hereinafter Davis).

Regarding claim 3, Medina in view of Krishnamurthy does not explicitly disclose wherein the data format information indicates whether the selected metadata fragment data has a binary XML format or a text XML format. However, Davis discloses wherein the data format information indicates whether the selected metadata fragment data has a binary XML format or a text XML format (Davis: column 15 lines 50-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to incorporate the method of providing metadata fragment data has a binary XML format or a text XML format of Davis into the system of Medina in view of Krishnamurthy to describe a class of data objects called XML documents and partially describes the behavior of computer programs which process them (Davis: column 15 lines 52-54).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRANG DOAN whose telephone number is (571)272-0740. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Trang Doan/
Examiner, Art Unit 2131
/Ayaz R. Sheikh/
Supervisory Patent Examiner, Art Unit 2131